Journal of
APPLIED POLYMER SCIENCE

CONTENTS

Volume 70

ISSUE NUMBER 1 / OCTOBER 3, 1998

Modification of Fast-Cure Ethylene–Propylene Diene Terpolymer Rubber by Maleic Anhydride and Effect of Electron Donor
M. Mehrabzadeh, S. Kasaei, and M. Khosravi 1

Adsorption Properties of Poly(acrylaminophosphonic-carboxyl-hydrazide) Type Chelating Fiber for Heavy Metal Ions
R. Liu, B. Zhang, and H. Tang 7

Synthesis and Evaluation of a Beta Cyclodextrin-Based Molecularly Imprinted Copolymer
K. Sreenivasan 15

Synthesis and Evaluation of a Molecularly Imprinted Polyurethane–Poly(HEMA) Semi-Interpenetrating Polymer Networks as Membrane
K. Sreenivasan 19

Diffusional Characteristics of Coextruded Linear Low-Density Polyethylenes Prepared from Different Conditions of Processing
J. P. G. Villaluenga, B. Seoane, and V. Compañ 23

Desorption of Water Vapor in Hydrogen-Bonded Polymer Blends
W.-P. Hsu, A. S. Myerson, and T. K. Kwei 39

Synthesis, Characterization, and Pervaporation Performance of Random Copolymers of Poly(amidesulfonamide)s (PASAs)
W.-H. Chan, C.-F. Ng, T.-S. Lam, and L. M. Leung 47

Effect of Processing Additives on (Bio)degradability of Film-Blown Poly(ε-caprolactone)
A.-C. Albertsson, R. Renstad, B. Erlandsson, C. Eldsäter, and S. Karlsson 61

Influence of Maleation of Polypropylene on the Interfacial Properties between Polypropylene and Ethylene–Vinyl Alcohol Copolymer
N. R. Demarquette and M. R. Kamal 75

Structure Development and Dynamics of Vibration Welding of Poly(ethylene naphthalate) from Amorphous and Semicrystalline Precursors
M. Cakmak, J. Robinette, and S. Schaible **89**

Classification of Ethylene–Styrene Interpolymers Based on Comonomer Content
H. Chen, M. J. Guest, S. Chum, A. Hiltner, and E. Baer **109**

Study of Blend Membranes Consisting of Nafion® and Vinylidene Fluoride–Hexafluoropropylene Copolymer
J.-C. Lin, M. Ouyang, J. M. Fenton, H. R. Kunz, J. T. Koberstein, and M. B. Cutlip **121**

Chemical Recycling of Flexible PVC by Oxygen Oxidation in NaOH Solutions at Elevated Temperatures
T. Yoshioka, K. Furukawa, T. Sato, and A. Okuwaki **129**

Nonisothermal, Uncontrolled Homo- and Copolymerization of Ethylene Using Selected Zirconocenes
M. Atiqullah, H. Hammawa, M. N. Akhtar, J. H. Khan, and H. Hamid **137**

Ultradrawing Behavior of One- and Two-Stage Drawn Gel Films of Ultrahigh Molecular Weight Polyethylene and Low Molecular Weight Polyethylene Blends
J.-T. Yeh, S.-S. Chang, and M.-S. Yen **149**

Grafting of Polyethylenes by Reactive Extrusion. I. Influence on the Molecular Structure
C. Rosales, R. Perera, M. Ichazo, J. Gonzalez, H. Rojas, A. Sánchez, and A. Díaz Barrios **161**

Fabrication of Al_2O_3-Coated Carbon Fiber-Reinforced Al-Matrix Composites
Q. Zeng **177**

Phenoxy/Hytrel Blends. I. Miscibility and Melt-State Reactions
M. Gaztelumendi and J. Nazábal **185**

Thermotropic Behavior of Cholesterol-Linked Polysaccharides
V. A. E. Shaikh, N. N. Maldar, S. V. Lonikar, C. R. Rajan, and S. Ponrathnam **195**

Preparation and Characterization of Plasma-Polymerized Thiophene Films
N. V. Bhat and D. S. Wavhal **203**

ISSUE NUMBER 2 / OCTOBER 10, 1998

The Synthesis and Characterization of New Polymerizable Pyrimidines: Immobilization of the Monomers onto Hydrophilic Graft Copolymeric Supports Through Radiation-Induced Copolymerization–Grafting
S. Pegiadou, J. T. Guthrie, and M. H. Gill **211**

Poly(sodium 4-styrenesulfonate)—Metal Ion Interactions
B. L. Rivas and I. Moreno-Villoslada **219**

Soap-Free Emulsion Polymerization of *n*-Butyl Acrylate: Copolymerization with 1,1-(Dimethyl)-1-(3-Methacryloxyethyl)-1-(Sulfopropyl)Ammonium Betaine
H. P. Blom, M. Gauthier, K. Li, and K. E. Nielsen **227**

Direct Current Cathodic Glow Discharge Polymerization of Methane and Butane
M. Miyama and H. K. Yasuda 237

Molecular Orientation in Novolac Cured Epoxy Resins as Studied by Rheo-optical FTIR Spectroscopy
T. Scherzer 247

Structure–Property Correlation for Thin Films of Semi-Interpenetrating Polyimide Networks. I. Miscibility, Curing, and Morphology Studies
H.-C. Liou, P. S. Ho, and B. Tung 261

Structure–Property Correlation for Thin Films of Semi-Interpenetrating Polyimide Networks. II. Anisotropy in Optical, Electrical, Thermal, and Mechanical Properties
H.-C. Liou, P. S. Ho, and B. Tung 273

High-Resolution Thermogravimetric Analysis of Polyurethane/Poly(ethyl methacrylate) Interpenetrating Polymer Networks
M. H. S. Gradwell, D. J. Hourston, T. Pabunruang, F.-U. Schafer, and M. Reading 287

Thermal and Mechanical Properties of Aramid-Based Titania Hybrid Composites
Z. Ahmad, M. I. Sarwar, and J. E. Mark 297

True-Spiral Angles in Diploid and Tetraploid Native Cotton Fibers Grown at Different Locations
A. V. Moharir, L. Van Langenhove, J. Louwagie, E. Van Nimmen, and P. Kiekens 303

Tensile Test of Poly(vinyl chloride) Filled with Ground Calcium Carbonate Particles
Y. Nakamura, Y. Fukuoka, and T. Iida 311

Crosslinked Blended Poly(vinyl alcohol)/*N*-Methylol Nylon-6 Membranes for the Pervaporation Separation of Ethanol–Water Mixtures
R. Y. M. Huang and J.-J. Shieh 317

Dilute-Solution Properties of a Polymeric Antitumor Drug Carrier by Size-Exclusion Chromatography, Viscometry, and Light Scattering
R. Mendichi, V. Rizzo, M. Gigli, and A. Giacometti Schieroni 329

Effect of Molecular Weight on Latex Film Formation: Photon Transmission Study
Ö. Pekcan and E. Arda 339

Ionic Conductivity of New Dual-Phase Polymer Electrolyte Composed of Poly(epichlorohydrin-*co*-oxirane) and NBR
J.-L. Ju, Q.-C. Gu, H.-S. Xu, and C.-Z. Yang 353

New Membranes Bearing Pyridinic Ligands by Plasma Graft Polymerization
V. Michel, C. Marzin, G. Tarrago, and J. Durand 359

Synthesis of Methyl Methacrylate-*n*-Butylacrylate Copolymers: Study of the Paint Properties
B. Rouhallah and M. Ali-Asghar 367

Sequencing of Methyl Methacrylate/Vinylidene Chloride Copolymers of NMR Spectroscopy
A. S. Brar and M. Malhotra 373

An Investigation on the Modification of Polypropylene by Grafting of Maleic Anhydride Based on the Aspect of Adhesion
C.-W. Lin and W.-L. Lee **383**

Properties of Poly(ethylene terephthalate) and Maleic Anhydride-Grafted Polypropylene Blends by Reactive Processing
K. H. Yoon, H. W. Lee, and O. O. Park **389**

Removal of Perylene from Water Using Block Copolymer Nanospheres or Micelles
F. Henselwood, G. Wang, and G. Liu **397**

Rheological Study on the Adhesion Properties of the Blends of Ethylene Vinyl Acetate/Terpene Phenol Adhesives
L. D. Turreda, Y. Sekiguchi, M. Takemoto, M. Kajiyama, Y. Hatano, and H. Mizumachi **409**

ISSUE NUMBER 3 / OCTOBER 17, 1998

Rheological Properties of Poly(ethylene oxide) Aqueous Solutions
B. Briscoe, P. Luckham, and S. Zhu **419**

Morphology and Performance of Potassium Titanate Whisker-Reinforced Polypropylene Composites
S. C. Tjong and Y. Z. Meng **431**

Low Dielectric Loss Polyethylene Polymerized with Chromocene Catalyst
M. Hoshino and F. Ebisawa **441**

Stabilization of PACREL® by Organotellurium Compound
J. Malmström, L. Engman, M. Bellander, K. Jacobsson, B. Stenberg, and V. Lönnberg **449**

Effect of Molecular Structure in Branched Polyethylene on Adhesion Properties with Polypropylene
M. Yamaguchi **457**

Photoinitiated Grafting of Methyl Methacrylate on Highly Oriented Polyethylene: Effect of Draw Ratio on Grafting
T. Amornsakchai and H. Kubota **465**

Role of Substituent in Electrooxidation of Poly(1-substituted pyrrole) Films
M. Tsuchiya, S. Matsui, K. Sano, and T. Kojima **471**

Sulfonation of Polyetheretherketone by Chlorosulfuric Acid
F. Trotta, E. Drioli, G. Moraglio, and E. B. Poma **477**

Synergism in Properties of Ionomeric Polyblends Based on Zinc Salts of Maleated High-Density Polyethylene and Carboxylated Nitrile Rubber
P. Antony and S. K. De **483**

Hydrolysis of Active Esters by Polymer-Supported Oximes: Influence of Macromolecular Characters
K. Aiswaryakumari and K. Sreekumar **493**

Synthesis of Crosslinked Chitosan-Crown Ethers and Evaluation of These Products as Adsorbents for Metal Ions
C. Peng, Y. Wang, and Y. Tang **501**

Viscoelastic Properties of Suspensions with Weakly Interacting Particles
G. Bayram, Ü. Yilmazer, and N. Orbey **507**

Slip Velocity and Slip Layer Thickness in Flow of Concentrated Suspensions
F. Soltani and Ü. Yilmazer **515**

Graft Polymerization of Methyl Methacrylate onto Polyvinyl Alcohol Using Ce^{4+} Initiator
P. Chowdhury and M. Banerjee **523**

Interpenetrating Polymer Networks of Bismaleimide and Polyurethane-Crosslinking Epoxy
J. L. Han, Y. C. Chern, K. Y. Li, and K. H. Hsieh **529**

Wide-Angle X-ray Scattering, Fourier Transform Infrared Spectroscopy, and Scanning Electron Microscopy Studies on the Influence of the Addition of Liquid Functional Rubber into Epoxy Thermoset
V. Nigam, D. K. Setua, and G. N. Mathur **537**

Multiparameter Mapping of Polymer Properties for Fast Thermolysis of Powder Moldings
J. H. Song, J. R. G. Evans, M. J. Edirisinghe, and E. H. Twizell **545**

Carbon-Black-Filled Polyolefine as a Positive Temperature Coefficient Material: Effect of Composition, Processing, and Filler Treatment
G. Yu, M. Q. Zhang, and H. M. Zeng **559**

Swelling Behavior of Anionic Acrylamide-Based Hydrogels in Aqueous Salt Solutions: Comparison of Experiment with Theory
O. Okay, S. B. Sariişik, and S. D. Zor **567**

Hydrolytic Resistance of Model Poly(ether urethane ureas) and Poly(ester urethane ureas)
A. Pegoretti, L. Fambri, A. Penati, and J. Kolarik **577**

Influence of Phase Microstructure on the Mechanical Properties of Ternary Phase Polypropylene Composites
P. R. Hornsby and K. Premphet **587**

The Interaction Between Conjugated Polymer and Fullerenes
M. Zheng, F. Bai, F. Li, Y. Li, and D. Zhu **599**

Reversible Photoreaction of C_{60}-Containing Poly(vinyl alcohol)
Y. Chen and C.-H. Tsai **605**

Block Copolymers Derived from 2,2′-Azobis(2-cyanopropanol). I. Synthesis of Poly(urethane-*block*-methyl methacrylate) and Poly(urethane-*block*-styrene)
T. Cheikhalard, V. Massardier, L. Tighzert, and J. P. Pascault **613**

ISSUE NUMBER 4 / OCTOBER 24, 1998

Silica–Alumina Catalysts for Polymerization of Cyclic Siloxanes
A. A. Vaidya and V. G. Kumar **629**

Photooxidative Degradation of Styrenic Polymers: ^{13}C-NMR and Morphological Changes upon Irradiation
A. V. Prasad and R. P. Singh **637**

Effects of Applied Potentials on Permselectivity of Ions through Polypyrrole/Porous-Polypropylene Composite Membrane
M. Morita **647**

Chain Extended Cyclohexanone-Formaldehyde and Acetophenone–Formaldehyde Resins
N. Kizilcan and A. Akar **655**

Effect of Metallic Wire Inserted in Nozzle in High-Speed Melt Spinning of Poly(ethylene terephthalate)
H. J. Jeon, H. Ito, T. Kikutani, N. Okui, and M. Okamoto **665**

Identification and Determination of the Glyceride and Tris-(2-hydroxyethyl)isocyanurate Structures in the Average Macromolecule of a Polyester with Carbon-13-NMR Spectroscopy: Analysis of the Polyester Average Structure
M. Skarżyński, G. Cynkowska, L. Abis, I. Wawer, and S. Spera **675**

Functionalization of Atactic Polypropylene by Succinyl-Fluorescein: A Two-Step Process of Chemical Modification in the Melt
J. M. García-Martínez, O. Laguna, S. Areso, and E. P. Collar **689**

Molecular Weight Dependence of Surface Tension of Polystyrene as Studied by the Corresponding States Principle
K. K. Chee **697**

Compatibility Enhancement of ABS/PVC Blends
D. W. Jin, K. H. Shon, B. K. Kim, and H. M. Jeong **705**

Effect of Water Presence on the Sorption of Organic Compounds in Ethylene–Vinyl Alcohol Copolymers
S. Aucejo, M. J. Pozo, and R. Gavara **711**

Oxidative Polymerization of Phenylenediamines by Enzyme and Magnetic Properties of the Products
D. Ichinohe, T. Muranaka, and H. Kise **717**

Hysteresis and Strain-Dependent Dynamic Mechanical Properties of Epoxidized Natural Rubber Filled with Surface-Oxidized Carbon Black
A. K. Manna, P. P. De, D. K. Tripathy, and S. K. De **723**

Enthalpies of Vaporization of Oligomers of Poly(hexamethylene sebacate) and Esters of Alkylcarboxylic Acids
J. C. Phillips **731**

Water Sorption Characteristics of Epoxy Resin–UHMPE Fibers Composites
A. G. Andreopoulos and P. A. Tarantili **747**

Structure Development in the Phenolic Resin—Poly(styrene-ran-acrylonitrile) Copolymer Blends
B. S. Kim, G.-I. Nakamura, and T. Inoue **757**

Effects of Residual and External Alkylaluminum on the Synthesis of Syndiotactic Polystyrene with Cyclopentadienyltitanium Tribenzyloxide–Methylaluminoxane Catalyst
Q. Wu, Q. Gao, and S. Lin 765

Effects of Miscibility on Probe Tack of Natural-Rubber-Based Pressure-Sensitive Adhesives
M. Fujita, M. Kajiyama, A. Takemura, H. Ono, H. Mizumachi, and S. Hayashi 771

Effects of Miscibility on Peel Strength of Natural-Rubber-Based Pressure-Sensitive Adhesives
M. Fujita, M. Kajiyama, A. Takemura, H. Ono, H. Mizumachi, and S. Hayashi 777

Modification of Epoxy Resin with α,ω-Oligo(butylmethacrylate)diols
N. Schröder, L. Könczöl, W. Döll, and R. Mülhaupt 785

Dynamic Thermomechanical and Tensile Properties of Chain-Extended Poly(ethylene terephthalate)
D. N. Bikiaris and G. P. Karayannidis 797

The Study of Polystyrene Blends: The Relationship of Phases and Structure in Blends of Polystyrene with Ethylene–Propylene Diene Monomer Rubber and Its Grafted Copolymer
J. Sheng, J. Hu, X.-B. Yuan, Y.-P. Han, F.-K. Li, and D.-C. Bian 805

Miscibility and Phase Behavior of Poly(D,L-lactide)/Poly-(*p*-vinylphenol) Blends
L. Zhang, S. H. Goh, and S. Y. Lee 811

Poly(acrylic acid)–Poly(vinyl alcohol) Copolymers with Superabsorbent Properties
A. B. Argade and N. A. Peppas 817

Detecting Local Polydispersity with Multidetector SEC from Reconstructed DRI Chromatograms
T. H. Mourey and S. T. Balke 831

ISSUE NUMBER 5 / OCTOBER 31, 1998

Polymers from Renewable Resources. XX. Synthesis, Structure, and Thermal Properties of Semi-Interpenetrating Polymer Networks Based on Cardanol–Formaldehyde-Substituted Aromatic Compounds Copolymerized Resins and Castor Oil Polyurethanes
D. K. Mohapatra, D. Das, P. L. Nayak, and S. Lenka 837

Mechanical Studies of Methyl Methacrylate Treated Jute and Flax Fibers under UV Radiation
M. A. Ali, M. A. Khan, K. M. I. Ali, and G. Hinrichsen 843

Liquid–Liquid Phase Separation and Crystallization of Polydisperse Isotactic Polypropylene Solutions
H. K. Lee, S. C. Kim, K. Levon 849

Relaxation Behavior in Polarized PVDF Films under the Influence of Mechanical and Thermal Multistresses above Glass-Transition Temperature
M. D. Migahed, M. I. Abdel-Hamid, and A. M. A.-E. Wafa 859

Thermal and Mechanical Properties of Silane-Crosslinked Poly(Vinylchloride)
M. Hidalgo, M. I. Beltrán, H. Reinecke, and C. Mijangos 865

Toughness Assessment of Elastomeric Polypropylene (ELPP) by the Essential Work of the Fracture Method
D. E. Mouzakis, M. Gahleitner, and J. Karger-Kocsis 873

Single Step Room Temperature Oxidation of Poly(ethylene glycol) to Poly(oxyethylene)-Dicarboxylic Acid
B. S. Lele and M. G. Kulkarni 883

Effect of Preparation Methods on Thermal Properties of Poly(acrylic acid)/Silica Composites
T. Çaykara and O. Güven **891**

Influence of Spacer Groups on Grafting Ability, Curing Ability, and Film Properties of Water-Based Radiation Curable Latexes
J. Odeberg, J. Rassing, J.-E. Jönsson, and B. Wesslén **897**

Physical Aging and Crystallization of Amorphous Poly(aryl ether ether ketone ketone)
S. Tan, J. Luo, A. Su, X. Zhao, and E. Zhou **907**

Preparation and Physical Properties of Two-Component Polyurethane Flame-Retardant Coatings Using Trichloro Modified Polyesters
H.-S. Park, K.-J. Ha, J.-H. Keun, and T.-O. Kim **913**

Studies on New Ampholytic Cellulose Derivative as Clay-Hydration Inhibitor in Oil Field Drilling Fluid
X. Yin, L. Zhang, and Z. Li **921**

Investigation of Properties of Chitosan Obtained by Solid-Phase and Suspension Methods
S. Z. Rogovina, T. A. Akopova, and G. A. Vikhoreva **927**

Investigation of Readily Processable Thermoplastic-Toughened Thermosets. II. Epoxy Toughened Using a Reactive Solvent Approach
H. Wu, A. Gopala, F. Harris, and P. Heiden **935**

Investigation of Readily Processable Thermoplastic-Toughened Thermosets. III. Toughening BMIs and Epoxy with a Comb-Shaped Imide Oligomer
A. Gopala, H. Wu, and P. Heiden **943**

Inulin Polysaccharide Having Pendant Amino Acids: Synthesis and Characterization
C.-Y. Won and C.-C. Chu **953**

Preparation and Swelling Properties of Glycoside-Bearing Hydrogels by Gamma-Ray Radiation to Glycoside-Bearing Polymer Aqueous Solutions
N. Sakamoto, K. Suzuki, A. Kishida, and M. Akashi **965**

Syndioselective Propylene Polymerization: Comparison of $Me_2C(Cp)(Flu)ZrMe_2$ with $Et(Cp)(Flu)ZrMe_2$
I. Kim, K.-T. Kim, M. H. Lee, Y. Do, and M.-S. Won **973**

Aging of Vulcanizates of Formulations for Rubber Seals
V. Subramanian and S. Ganapathy **985**

Thermal Behavior of Blends Based on High-Molecular Polyoxyethylene and Salts from Seawater and Sea Lye
B. Bogdanov, M. Zagortcheva, K. Gjurova, and A. Popov **995**

Graft Copolymerization of Acrylic Acid onto Polystyrene Using the Solid Phase Grafting Technique
S. Subramanian and S. Lee **1001**

Characterization of the Rheological Behavior of UHMWPE Gels Using Parallel Plate Rheometry
H.-T. Chiu and J.-H. Wang **1009**

Control of Molecular Weight Distribution and Tensile Strength in a Free Radical Styrene Polymerization Process
T. J. Crowley and K. Y. Choi **1017**

Permeability Properties of Isometrically Temperature-Responsive Poly(acrylic acid)-*graft*-Oligo(*N*-isopropylacrylamide) Gel Membranes
N. Kubota, T. Matsubara, and Y. Eguchi **1027**

A Comparative Study of *In-Situ* Composite Fibers Reinforced with Different Rigid Liquid Crystalline Polymers
L. Pan and B. Liang **1035**

ISSUE NUMBER 6 / NOVEMBER 7, 1998

Abnormal pH Sensitivity of Polyacrylate–Polyurethane Hydrogels
Y. Ying, X. Gu, and C. Yang **1047**

A Solid-State NMR Study of Aromatic Polyimides Based on 4,4′-Diaminotriphenylmethane
A. Martínez-Richa and R. Vera-Graziano **1053**

Effect of Composition and Molecular Structure on the LC Phase of PHB–PEN–PET Ternary Blend
S. H. Kim, S. W. Kang, J. K. Park, and Y. H. Park **1065**

Thermal Properties of Silane-Grafted Water-Crosslinked Polyethylene
Y.-T. Shieh and K.-I. Hsiao **1075**

Polycondensation and Autocondensation Networks in Polyflavonoid Tannins. I. Final Networks
R. Garcia and A. Pizzi **1083**

Polycondensation and Autocondensation Networks in Polyflavonoid Tannins. II. Polycondensation Versus Autocondensation
R. Garcia and A. Pizzi **1093**

Crosslinked and Entanglement Networks in Thermomechanical Analysis of Polycondensation Resins
R. Garcia and A. Pizzi **1111**

Properties of Starch-*graft*-Poly(glycidyl methacrylate)–PHBV Composites
J. L. Willett, M. A. Kotnis, G. S. O'Brien, G. F. Fanta, and S. H. Gordon **1121**

Characterization of the Network Structure of Hydroxyl Terminated Poly(butadiene) Elastomers Prepared by Different Reactive Systems
M. S. Eroğlu **1129**

Influence of Thermal History on the Formation of Liquid Crystalline Phase of Hydroxyethyl Cellulose Acetate
H. Wang, Y. Huang, and J. Shen **1137**

Phase Behaviors of Binary Polymer Solutions: The Extended Lattice Fluid Model
J. G. Jang and Y. C. Bae **1143**

Silylated Poly(4-hydroxystyrene)s as Negative Electron Beam Resists
T. Shinoda, M. Yoshikawa, T. Nishiwaki, and H. Inoue **1151**

Toughening of Epoxy Resin Blended with Thermotropic Hydroxyethyl Cellulose Acetate
Q. Dai, J. Chen, and Y. Huang **1159**

π-Conjugated Soluble Nickel–Polyyne Copolymer: Synthesis and Third-Order Optical Nonlinearity
M. Yang, L. Zhang, Z. Lei, P. Ye, J. Si, Q. Yang, and Y. Wang **1165**

Dynamic Simulation and Experimental Evaluation of EPDM Terpolymerization with Vanadium-Based Catalyst
M. Carcuchinski Haag, J. H. Zimnoch dos Santos, J. Dupont, and A. R. Secchi **1173**

Vinyl Monomers Bearing Chromophore Moieties and Their Polymers. VII. Synthesis, Photochemical, and Initiation Behavior of Acrylic Monomers Bearing Phenothiazine Oxide Moieties and Their Polymers
X.-Q. Liu, F.-S. Du, Z.-C. Li, F.-M. Li, Q.-Y. Gao, G.-X. Yang, and J.-X. Zhang **1191**

Photodegradation of Teflon AF1600 During XPS Analysis
D. Popovici, E. Sacher, and M. Meunier **1201**

Palladium Nanocatalysts Protected by Polyacids
A. B. R. Mayer, J. E. Mark, and S. H. Hausner **1209**

Photooxidation of Anhydride-Cured Epoxies: FTIR Study of the Modifications of the Chemical Structure
V. Ollier-Duréault and B. Gosse **1221**

HDPE Liquefaction: Random Chain Scission Model
P. Rangarajan, D. Bhattacharyya, and E. Grulke **1239**

NOTE
The Refractive Index Increment for Poly-α-methylstyrene at 633 nm in Tetrahydrofuran
N. T. McManus and A. Penlidis **1253**

ISSUE NUMBER 7 / NOVEMBER 14, 1998

Special Issue: Contributions from a Special Symposium in honor of Prof. Jack L. Koenig

Preface **1255**

Enzyme-Catalyzed Polymerization of 8-Hydroxyquinoline-5-sulfonate by *In Situ* Nuclear Magnetic Resonance Spectroscopy
K. S. Alva, L. Samuelson, J. Kumar, S. Tripathy, and A. L. Cholli **1257**

Ternary Hydrogen-Bonded Polymer Solutions
Y. Hu, P. C. Painter, and M. M. Coleman **1265**

Connectivity and Spacing Effects in Hydrogen-Bonding Polymer Solutions and Blends
P. Painter, Y. Park, and M. Coleman **1273**

Molecular Structure of Interfaces between Plasma-Polymerized Acetylene Films and Steel Substrates
Y. M. Tsai and F. J. Boerio **1283**

Molecular Origin of Unusual Physical and Mechanical Properties in Novel Phenolic Materials Based on Benzoxazine Chemistry
S. Wirasate, S. Dhumrongvaraporn, D. J. Allen, and H. Ishida **1299**

Multidimensional Spectrometry and Mapping
W. G. Fateley, R. A. Deverse, and R. M. Hammaker **1307**

Use of Vibrational Spectra for the Determination of First-Order Molecular Hyperpolarizabilities of Push–Pull Polyenes as Function of Structural Parameters
M. Del Zoppo, C. Castiglioni, P. Zuliani, A. Razelli, M. Tommasini, G. Zerbi, and M. Blanchard-Desce **1311**

Recent Advances in Stratification and Film Formation of Latex Films; Attenuated Total Reflection and Step-Scan Photoacoustic FTIR Spectroscopic Studies
B.-J. Niu and M. W. Urban **1321**

Rheo-Optical Fourier Transform Near-Infrared Spectroscopy of Polydimethylsiloxane/Polycarbonate Block Copolymers
A. Ameri and H. W. Siesler **1349**

Spectroscopies I Have Known—Award Address: Philips ACS Award in Applied Polymer Science
J. L. Koenig **1359**

Solid-State ^{13}C-NMR Studies of Changes in Crosslinked Carbon Structure of Natural Rubber during Heating under Air and Nitrogen Environments
D. D. Parker and J. L. Koenig **1371**

^{1}H-NMR Imaging Study of Molecular Mobility in Carbon Black-Filled, TBBS–Sulfur-Vulcanized *cis*-Polyisoprene
M. Mori and J. L. Koenig **1385**

Solid-State ^{13}C-NMR and Equilibrium-Swelling Studies of Filled, TBBS-Accelerated Sulfur Vulcanization of Natural Rubber
M. Mori and J. L. Koenig **1391**

Study of the Characterization and Curing of a Phenyl Benzoxazine Using ^{15}N Solid-State Nuclear Magnetic Resonance Spectroscopy
V. M. Russell, J. L. Koenig, H. Y. Low, and H. Ishida **1401**

Study of the Characterization and Curing of Benzoxazines using ^{13}C Solid-State Nuclear Magnetic Resonance
V. M. Russell, J. L. Koenig, H. Y. Low, and H. Ishida **1413**

ISSUE NUMBER 8 / NOVEMBER 21, 1998

Poly(ethylene glycol)-*Block*-Poly(butyl acrylate). II. Characterization and Properties
M. Lang, G. Zhang, X. Chen, N. Feng, and S. Li **1427**

Effect of Local Structure of $MnCl_2$-Filled PVDF Films on Their Optical, Electrical, Electron Spin Resonance, and Magnetic Properties
A. Tawansi, A. H. Oraby, E. M. Abdelrazek, M. I. Ayad, M. Abdelaziz **1437**

Enhanced Loading of Glucose Oxidase on Polyaniline Films Based on Anion Exchange
M. M. Verghese, K. Ramanathan, S. M. Ashraf, and B. D. Malhotra **1447**

Friction and Wear Characteristics of Copper and Its Compound-Filled PTFE Composites Under Oil-Lubricated Conditions
Z.-Z. Zhang, Q.-J. Xue, W.-M. Liu, and W.-C. Shen **1455**

Gas Transport Phenomena in Hydroxypropyl Cellulose Solid Film Retaining Cholesteric Liquid Crystalline Order
S. Suto and T. Kobayashi **1465**

The Effect of Some Fluoropolymers' Structures on Their Response to UV Irradiation
E. Katan, M. Narkis, and A. Siegmann **1471**

Imide-Modified Polyurethanes, Syntheses, Thermal, and Mechanical Characteristics
P. R. Nair, C. P. R. Nair, and D. J. Francis **1483**

Solubility and Diffusion in Latex Films Formed from High Glass Transition Temperature Particles
Ş. Uğur and Ö. Pekcan **1493**

LDPE/Starch Blends Compatibilized with PE-*g*-MA Copolymers
D. Bikiaris and C. Panayiotou **1503**

Dynamics of Intumescence of Fire-Retardant Polymeric Materials
V. Sh. Mamleev, E. A. Bekturov, and K. M. Gibov **1523**

Conductive Polyaniline–Polychloroprene Blends
M. S. Pinho, M. M. Gorelova, M. Dezzoti, B. G. Soares, and A. J. Pertsin **1543**

Comparison of Two Curing Agents in Thermal Crosslinking. I. Hard Paraffin Wax
N. S. Nhlapo, A. S. Luyt, and H. C. M. Vosloo **1551**

Preparation and Characteristics of Thin Film with Wear-Resistant Behavior on HDPE Surface Polymerized by C_2H_2–H_2–SiH_4 Plasma
X. Zou, X. Yi, and Z. Fang **1561**

Influence of the Dopant on the Polypyrrole Moisture Content: Effects on Conductivity and Thermal Stability
C. Cassignol, P. Olivier, and A. Ricard **1567**

Chlorinated Crosslinked Adsorbents
I. Poinescu, C.-D. Vlad, and R.-G. Ciolacu **1579**

TLCP Ternary Blends for *In Situ* Composites: *In Situ* Compatibilizer
Y. Seo **1589**

Surface Modification Strategies for Multicomponent Polymer Systems. V. Interaction States and Mechanical Properties of LLDPE/PVC Blends with Corona-Modified Rutile Pigment
R. Xu and H. P. Schreiber **1597**

Preparation and Properties of Novel Fluorinated Polyimides Based on 2,2′,6,6′-Tetrafluorobenzidine
H.-J. Xu, J. Yin, Y. He, J.-H. Fang, Z.-K. Zhu, and Z.-G. Wang **1605**

Impact-Modified Blends of Compatibilized Polyamide-6 with Liquid Crystalline Copolyester
S. C. Tjong and Y. Z. Meng **1611**

A Novel Synthetic Strategy to Aromatic-Diisocyanate-Based Waterborne Polyurethanes
X. Wei, Y. Ying, and X. Yu **1621**

Structural and Optical Properties of Iodine-Doped PMMA Film
D. S. Kelkar and A. P. Gadre **1627**

Fatigue-Resistant Silicone Elastomer Formulations
J. J. Fitzgerald, W. T. Ferrar, and T. D. Binga **1633**

ISSUE NUMBER 9 / NOVEMBER 26, 1998

Oxidative Degradation and Molecular Weight Change of LDPE Buried under Bioactive Soil for 32–37 Years
Y. Ohtake, T. Kobayashi, H. Asabe, N. Murakami, and K. Ono **1643**

Epoxy/Castor Oil Graft Interpenetrating Polymer Networks
M.-P. Raymond and V. T. Bui **1649**

Gelation of Poly(vinyl alcohol)/Water/Dimethylformamide Solutions and Properties of Dried Films
K. Yamaura, S. Ideguchi, and T. Tanigami **1661**

Improved Adhesion of Silicone Rubber to Polyurethane by Induced Surface Reconstruction
M.-F. Tsai, Y.-D. Lee, and Y.-C. Ling **1669**

An Analytical Model for Spherulitic Growth in Fiber-Reinforced Polymers
A. Benard and S. G. Advani **1677**

Novel Organic–Inorganic Chemical Hybrid Fillers for Dental Composite Materials
Y. Wei, D. Jin, G. Wei, D. Yang, and J. Xu **1689**

Grafting of Ethyl Acrylate onto Monofilament Polyester Fibers Using Benzoyl Peroxide
M. Karakişla and M. Saçak **1701**

Polymerization of Ethylene and Ethylene/1-Hexene over Ziegler–Natta/Metallocene Hybrid Catalysts Supported on $MgCl_2$ Prepared by a Recrystallization Method
H. S. Cho, J. S. Chung, J. H. Han, Y. G. Ko, and W. Y. Lee **1707**

The Role of Filler Volume Fraction in the Strain-Rate Dependence of Calcium Carbonate-Reinforced Polyethylene
J. Suwanprateeb, S. Tiemprateeb, S. Kangwantrakool, and K. Hemachandra **1717**

Nucleation and Crystallization of PET Droplets Dispersed in an Amorphous PC Matrix
C. H. Molinuevo, G. A. Mendez, and A. J. Müller **1725**

In-Line Evaluation of Average Particle Size in Styrene Suspension Polymerizations Using Near-Infrared Spectroscopy
A. F. Santos, E. L. Lima, and J. C. Pinto **1737**

Pressure Effects on Polymerization of Syndiotactic Polystyrene
A. T. Hu, J. H.-J. Lee, and T. -S. Chen **1747**

Synthesis of MQ Silicone Resins Through Hydrolytic Condensation of Ethyl Polysilicate and Hexamethyldisiloxane
W. Huang, Y. Huang, and Y. Yu **1753**

Effect of Na-Light Radiation on the Optical Gap and Crystal Structure of $AgNO_3$-Diffused PVDF Sensor
A. Tawansi, A. H. Oraby, E. Ahmed, E. M. Abdelrazek, and M. Abdelaziz **1759**

Adhesives and Coatings Based on Poly(vinyl acetal)s
A. M. Motawie and E. M. Sadek **1769**

Study on Variation of Structure and Properties of Natural Rubber During Accelerated Storage
S.-D. Li, H.-P. Yu, Z. Peng, and P.-S. Li **1779**

Wide-Angle X-ray Scattering Study of Crystalline Orientation in Reticulate-Doped Polymer Composites
W. B. Genetti, R. J. Lamirand, and B. P. Grady **1785**

On the Characterization of Grafted and Ungrafted Starch, Amylose, and Amylopectin
S. K. Rath and R. P. Singh **1795**

Improvement of Dimensional Stability of Nylon-6 Block Copolymer Using Phenolic Resin by Reaction Injection Molding
M. J. Lozano-González, E. A. González-de los Santos, A. F. Johnson, and S.-W. Tsui **1811**

Interaction of Sodium Dodecyl Sulfate with Polyelectrolyte Complex from Diazoresin and Poly(sodium styrene sulfonate) in Aqueous Solution
W. Cao, L. Yang, and H. Luo **1817**

Ultrasonic, Refractometric, and Viscosity Studies of Some Polymer Blends in Solution
A. Varada Rajulu, R. Lakshminarayana Reddy, and Siddaramaiah **1823**

Thermal Stability of Ethylene–Vinyl Acetate and Ethylene–Propylene–Diene (EVA–EDPM) Blends
S. Mishra, S. Balakrishnan, and R. Chandra **1829**

Synthesis and Characterization of Polysiloxanes for Controlled Release of 2-Pyridine Aldoxime–Chloride
D. C. Gupta, G. Sumana, and R. Jain **1837**

Studies on Adsorptive Interaction Between Natural Fiber and Coupline Agents
B. Singh, A. Verma, and M. Gupta **1847**

ISSUE NUMBER 10 / DECEMBER 5, 1998

A General Kinetic Model for Epoxy Polymerization
S. Raha and S. K. Gupta **1859**

Properties of Epon 828 Resin Cured by Cyclic Phosphine Oxide Tetra Acid
T.-S. Wang and M.-D. Shau **1877**

Stress–Strain Behavior and Impact Strength of Polystyrene/Polyamide-6 Blends Compatibilized with Poly(styrene-*g*-ethylene oxide)
P. Jannasch and B. Wesslén **1887**

Nonisothermal Melting and Crystallization Studies of Homogeneous Ethylene/α-Olefin Random Copolymers
M.-H. Kim and P. J. Phillips **1893**

Synthesis and Modification of a Naphthalene-Containing Trifunctional Epoxy Resin for Electronic Applications
C.-S. Wang and M.-C. Lee **1907**

Use of Oxazoline Functionalized Polyolefins and Elastomers as Compatibilizers for Thermoplastic Blends
C. Vocke, U. Anttila, M. Heino, P. Hietaoja, and J. Seppälä **1923**

Effects of Diffusion on the Kinetic Study and TTT Cure Diagram for an Epoxy/Diamine System
L. Núñez, F. Fraga, M. R. Núñez, and M. Villanueva **1931**

Investigation of Alkaline Hydrolysis of Polyethylene Terephthalate by Differential Scanning Calorimetry and Thermogravimetric Analysis
C.-Y. Kao, W.-H. Cheng, and B.-Z. Wan **1939**

***In Situ* Thermal Gelation of Water-Soluble Poly(*N*-isopropylacrylamide-*co*-vinylphosphonic acid)**
G. T. Eom, S. Y. Oh, and T. G. Park **1947**

All-Solid-State Electrochromic Device of Electrodeposited WO_3 and Prussian Blue Film with PVC Gel Electrolyte
L. Su, J. Fang, and Z. Lu **1955**

Synthesis and Properties of Phosphorus Containing PET and PEN (I)
C. S. Wang, J. Y. Shieh, and Y. M. Sun **1959**

Microstructure of Amorphous and Crystalline Poly(ethylene terephthalate)
W. Chen, E. A. Lofgren, and S. A. Jabarin **1965**

Low-Temperature Graft Copolymerization of 1-Vinyl Imidazole on Low-Density Polyethylene Films with Simultaneous Lamination of Copper Foils
H. S. Han, K. L. Tan, E. T. Kang, and K. G. Neoh **1977**

The Influence of Melt Processing on the Spatial Organization of Polymer Chains in a Crystallizable Diblock Copolymer of Nylon 6 and PDMS
U. Mukai, R. E. Cohen, A. Bellare, and R. J. Albalak **1985**

Curing Kinetics, Thermal Property, and Stability of Tetrabromo-bisphenol-A Epoxy Resin with 4,4′-Diaminodiphenyl Ether
Y. Liu, M. Zhao, S. Shen, and J. Gao **1991**

Relations of Weight-Average Molecular Weights and the Thermal Properties of *N*-Cyclohexyl Maleimide–Methyl Methacrylate
D. Shaosheng, W. Qingmin, W. Yuezhen, and Z. Zhiqian **2001**

Continuous Ultrasonic Devulcanization of Unfilled NR Vulcanizates
M. Tapale and A. I. Isayev **2007**

Heat Sealing of LLDPE: Relationships to Melting and Interdiffusion
C. Mueller, G. Capaccio, A. Hiltner, and E. Baer **2021**

Unsaturated Polyester Resins with Different Allyl Ethers as Crosslinking Built-In Monomers
G. Rokicki and E. Szymańska **2031**

Swelling of Poly(styrene-*co*-methacrylic acid) Latex by Isoprene
O. Karlsson and B. Wesslén **2041**

Electrical and Mechanical Properties of Grafted and Ungrafted Polyacrylamide–Rubber Blends
S. El-Sabbagh, S. M. Mokhtar, and S. L. Abd-El Messieh **2053**

Electrical and Mechanical Properties of Ethylene Propylene Diene Monomer–Chloroprene Rubber Blend Loaded with White and Black Fillers
A. F. Younan, S. L. Abd-El-Messieh, and A. A. Gasser **2061**

NOTE
Diffusion of CFC 11 and Hydrofluorocarbons in Polyurethane
S.-U. Hong and J. L. Duda **2069**

ISSUE NUMBER 11 / DECEMBER 12, 1998

Polystyrene Ionomer Aqueous Dispersion. II. Affecting Factors for the Stability and Particle Size of Emulsion
B. Liao, Y. Huang, G. Cong, and S. Zhao **2075**

PP/PE Blends. IV. Characterization and Compatibilization of Blends of Postconsumer Resin with Virgin PP and HDPE
H. P. Blom, J. W. Teh, and A. Rudin **2081**

Comparison of the Effects of Testing Conditions and Chemical Exposure on Geomembranes Using the Comprehensive Testing System
R. I. Stessel, W. M. Barrett, Jr., and X. Li **2097**

Photosensitive Polymers: Synthesis, Characterization, and Photocrosslinking Properties of Polymers with Pendant α,β-Unsaturated Ketone Moiety
A. V. Rami Reddy, K. Subramanian, and A. V. Sesha Sainath **2111**

Mechanical Properties of Woodflour Unsaturated Polyester Composites
N. E. Marcovich, M. M. Reboredo, and M. I. Aranguren **2121**

Temperature-Responsive Permeability of Porous PNIPAAm-*g*-PE Membranes
T. Peng and Y.-L. Cheng **2133**

Chitosan/Polyethylene Glycol–Alginate Microcapsules for Oral Delivery of Hirudin
T. Chandy, D. L. Mooradian, and G. H. R. Rao **2143**

Relaxation of Stress in Polypropylene and Ethylene–Propylene–Diene Elastomer Blend Vulcanizates at Moderate and High Extensions
A. Sengupta and B. B. Konar **2155**

Comparison of Cure Conditions for Rigid Rod Epoxy and Bisphenol A Epoxy Using Thermomechanical Analysis
W. F. A. Su, K. F. Schoch, Jr., and J. D. B. Smith **2163**

Thin Polypyrrole Films Prepared by Chemical Oxidative Polymerization
Y. Lu, G. Shi, C. Li, and Y. Liang **2169**

Effect of Molecular Structure of Polyarylates on the Compatibility in Polyarylate/Poly(vinyl chloride) Blends
J. H. Choi, S.-Y. Kwak, S. Y. Kim, J. S. Kim, and J.-J. Kim **2173**

Conductivity Studies of Solid Polymer Electrolytes Based on Polyethers and Polyphosphazene Blends
C. Del Río, P. J. Martín-Álvarez, and J. L. Acosta **2181**

Study of the Relationship Between Shear Modification and Melt Fracture in Extrusion of LDPE
Y. C. Kim, K. S. Yang, and C.-H. Choi **2187**

Characterization of Methocel™: Correlation of Static Light-Scattering Data to GPC Molar Mass Data Based on Pullulan Standards
D. S. Poché, A. J. Ribes, and D. L. Tipton **2197**

Surfactant-Free Emulsion Polymerization of Chlorotrifluoroethylene with Vinylacetate or Vinylidene Fluoride
T. F. McCarthy, R. Williams, J. F. Bitay, K. Zero, M. S. Yang, and F. Mares **2211**

Preparation and Properties of Polybenzidine Film-Coated Electrode as an H_2O_2 Selective Polymeric Material
E. Ekinci, M. Özden, M. H. Türkdemir, and A. E. Karagözler **2227**

Effect of Length of Ligand in Organotin Compounds on Their Catalytic Activity for the Polycondensation of Silicone
G. B. Shah **2235**

The Agglomeration of High Molecular Mass Polyacrylamide in Aqueous Solutions
R. Hecker, P. D. Fawell, and A. Jefferson **2241**

Accelerated and Environmental Weathering Studies on Polyethylene–Starch Blend Films
P. K. Sastry, D. Satyanarayana, and D. V. Mohan Rao **2251**

Blends of Aliphatic Polyesters. III. Biodegradation of Solution-Cast Blends from Poly(L-lactide) and Poly(ε-caprolactone)
H. Tsuji, A. Mizuno, and Y. Ikada **2259**

Interpenetrating Polymer Networks. II. Sunlight-Induced Polymerization of Multifunctional Acrylates
C. Decker and T. Bendaikha **2269**

The Study of Diffusion of Media in the Organic Coating Films by BAW Admittance Analysis
J. Chen, H. Tan, K. Chen, L. Nie, and S. Yao **2283**

Hydrous Pyrolysis of Silica-Supported Polystyrene
F. Bertini, G. Audisio, P. L. Beltrame, L. Bergamasco, and A. Castelli **2291**

Selective Pyrolysis of Polystyrene to That with a Desired Low Polymeric Degree
T. Murakata, M. Saito, H. Sato, T. Hirai, and S. Sato **2299**

Characterization and Magnetic Properties of P(St-*co*-4VP) Metal Microspheres
Y. Wang, L. Feng, and C. Pan **2307**

Core-Shell Particles Designed for Toughening the Epoxy Resins. II. Core-Shell-Particle-Toughened Epoxy Resins
K.-F. Lin and Y.-D. Shieh **2313**

Effect of Stabilizer on the Radiation Grafting of Methylmethacrylate onto Polypropylene
Y. C. Nho, O. H. Kwon, H. J. Ryu, H. G. Jung, D. S. Shin, and J. S. Kim **2323**

New Segmented Polyurethane Ureas Based on 4,4′-Dicyclohexylmethane Diisocyanate and on Various Soft Segments
N. Samson, F. Mechin, and J.-P. Pascault **2331**

Microwave Irradiation Graft Copolymerization of Hydroxyethyl Methacrylate onto Wool Fabrics
W. Xu, J. Bao, J. Zhang, and M. Shi **2343**

Indentation Responses of Viscoelastic Materials
I. M. Low, G. Paglia, and C. Shi **2349**

The Effect of Trivalent Metal Nitrates on the Properties of Dental Cements Made from Poly(acrylic acid)
J. W. Nicholson **2353**

A Qualitative Investigation on the Importance of Boundary Layer in Pervaporation Separation of an Aqueous Organic Reaction
H. I. Shaban **2361**

Isothermal and Nonisothermal Crystallization Kinetics of Nylon-11
S. Liu, Y. Yu, Y. Cui, H. Zhang, and Z. Mo **2371**

Recycling of Mixed Plastic Fractions: Mechanical Properties of Multicomponent Extruded Polyolefin Blends Using Response Surface Methodology
S. Tall, A.-C. Albertsson, and S. Karlsson **2381**

Influence of Processing Conditions on the Leaching of Thermal Stabilizers from Plasticized Polyvinyl Chloride in the Presence of Water
I. Fras, P. Cassagnau, and A. Michel **2391**

Syntheses and Characterization of Photocrosslinkable Poly(amic acid-*co*-urea)s with Diazoresin
J.-H. Liu, S.-Y. Lee, and F.-R. Tsai **2401**

The Influence of Cobaltous Chloride Modification on Physical Properties and Microstructure of Modified PAN Fiber during Carbonization
T.-H. Ko and L.-C. Huang **2409**

Synthesis and Properties of Unsaturated Polyoxyethylene and Its Graft Copolymers with Styrene
H.-Q. Xie, D. Xie, and Y. Liu **2417**

Effect of Adhesion on the Equilibrium Swelling of Natural Rubber-Aluminium Powder Composites
V. S. Vinod, S. Varghese, and B. Kuriakose **2427**

Silkworm Silk as an Engineering Material
J. Pérez-Rigueiro, C. Viney, J. Llorca, and M. Elices **2439**

Control of Microstructure and Molecular Weight Distribution of Carbon-Chain Heterofunctional Oligoperoxidic Curing Agents
A. S. Zaichenko, S. A. Voronov, A. I. Kuzayev, O. M. Shevchuk, and V. P. Vasilyev **2449**

Nuclear Magnetic Resonance Study of Commercial Poly(vinyl acetate)
C. M. G. de Souza and M. I. B. Tavares **2457**

Poly(ethylene glycol)s Catalyzed Two-Phase Dehydrochlorination of Poly(vinyl chloride) with Potassium Hydroxide
L. Guo, G. Shi, X. Du, C. Li, and Y. Liang **2463**

Preparation and Characterization of Bismaleimide-Diamine Prepolymers and Their Thermal-Curing Behavior
W. Wu, D. Wang, and C. Ye **2471**

Constant Voltage Electrodeposition of Poly(vinylidene chloride) Emulsions
O. Bravo, N. Marriaga, D. Laverde, and R. Correa **2479**

Oligonucleotide Synthesis on Maleic Anhydride Copolymers Covalently Bound to Silica Spherical Support and Characterization of the Obtained Conjugates
C. Chaix, C. Minard-Basquin, T. Delair, C. Pichot, and B. Mandrand **2487**

Synthesis, Characterization, and Solution Properties of Hydrophobically Modified Poly(vinyl alcohol)
S. Shaikh, S. K. A. Ali, E. Z. Hamad, M. Al-Nafaa, A. Al-Jarallah, and B. Abu-Sharkh **2499**

High-Density Polyethylene Coating on Carbon Steel by an Electrostatic Powder Spray System
M. A. Golozar and R. Bagheri **2507**

Properties of Immiscible Polymer Alloys without Compatibilizer
H. Hachiya, S. Takayama, and K. Takeda **2515**

Phase Distribution of Polymers in Immiscible Polymer Alloy without Compatibilizer
H. Hachiya, S. Takayama, and K. Takeda **2521**

Lamellar Structure and Properties in Poly(ethylene terephthalate) Fibers
N. S. Murthy, D. T. Grubb, K. Zero, C. J. Nelson, and G. Chen **2527**

ISSUE NUMBER 13 / DECEMBER 26, 1998

Attempts to Enhance the Properties of EPON 830–Methylene Dianaline Epoxy Resin Systems by Exposure to Magnetic Fields during Thermal Curing
R. H. Gerzeski **2539**

Computer Simulation of Network Formation in Polymers
V. I. Dakin **2569**

Novel UV-Autocurable Methacrylo-Urethane Polymeric Films Derived from *m*-Digallic Acid: Preparation and Characterization
S. B. Grassino and M. C. Strumia **2575**

Development of Polysulfone Membranes for Bacteria Immobilization to Remove Phenol
T. S. Chung, K.-C. Loh, and H. L. Tay **2585**

Influence of Cure Schedule and Solvent Exposure on the Dynamic Mechanical Behavior of a Vinyl Ester Resin Containing Glass Fibers
A. Valea, I. Martinez, M. L. Gonzalez, A. Eceiza, and I. Mondragon **2595**

Toughening of Epoxy Resin Using Synthesized Polyurethane Prepolymer Based on Hydroxyl-Terminated Polyesters
H. Harani, S. Fellahi, and M. Bakar **2603**

Investigation on Flocculation Characteristics of Polysaccharide-Based Graft Copolymers in Coal Fines Suspension
N. C. Karmakar, S. K. Rath, B. S. Sastry, and R. P. Singh **2619**

Enzyme Hydrolysis of Grafted Amylopectin
S. K. Rath and R. P. Singh **2627**

Interpenetrating Polymer Networks of Bismaleimide and Polyether Polyurethane–Crosslinked Epoxy
J. L. Han and K. Y. Li **2635**

The Effect of Compounding Techniques on the Mechanical Properties of Oil Palm Empty Fruit Bunch–Polypropylene Composites
H. D. Rozman, G. B. Peng, and Z. A. Mohd. Ishak **2647**

Chemical Modification of Hydroxyl Functions: Introduction of Hydrolyzable Ester Function and Bactericidal Quaternary Ammonium Groups
F. Baudrion, A. Perichaud, and S. Coen **2657**

High Solid Content Multisized Emulsion Copolymerization of Styrene, Butyl Acrylate, and Methacrylic Acid
F. Chu, C. Graillat, and A. Guyot **2667**

Conversion Studies in a Novel Reaction Injection Molding Process for Syndiotactic Polystyrene
C. L. P. Shan, W. E. Baker, M. F. Cunningham, and M. C. Baird **2679**

Polymer Blends by Self-Propagating Frontal Polymerization
A. Tredici, R. Pecchini, A. Sliepcevich, and M. Morbidelli **2695**

Melting Behavior of Acrylonitrile Polymers
A. K. Gupta, D. K. Paliwal, and P. Bajaj **2703**

Formation of Five-Membered Cyclic Anhydride Intermediates by Polycarboxylic Acids: Thermal Analysis and Fourier Transform Infrared Spectroscopy
C. Q. Yang and X. Wang **2711**

Studies of Electrochemical Colored Coating
S.-C. Kou, J.-S. Wen, J.-C. Fan, S.-H. Jeng, and A. Hung **2719**

Use of Styrene-Maleic Anhydride Copolymers (SMA Resins) in Emulsion Copolymerization
D. T. Nzudie, V. L. Dimonie, E. D. Sudol, and M. S. El-Aasser **2729**

Volume Title Page **2749**

Author Index to Volume 70 **2751**

Subject Index to Volume 70 **2767**

Volume Contents to Volume 70 **I**